

CUBE 4.3 – Cube Barplot Plugin User Guide

Generic Display for a CUBE Barplot Plugin

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1 Barplot User Guide

1.1 Introduction

BARPLOT plugin is a CUBE plugin that plots vertical bar graph for the file which has iterations. Horizontal axis shows different iterations being compared and on vertical axis, several operations can be used to represent the value. The User can apply different metrics and call paths on bar graph.

1.2 Basic Principles

As a start point, it should be mentioned that BARPLOT works only on file that has iterations. For those files which have not, user would face the warning on the terminal : "No iterations for Barplot" and the plugin will not be shown.

By loading the plugin, on *system dimension*, the corresponding tab, *Barplot*, will be added. In the *Barplot* tab, the user can select different operations and assign desired color to them. Figure displays a view of it.

User can select different metrics such as *Visits* and *Time*, by clicking on them in *metric dimension*. In addition, it is possible to get a BARPLOT for different *call paths* of iterations, via clicking on them. However, for *call paths* that are not located in iterations, like *input_in* figure , no bar graph is displayed and user face the message "No data to display" on a window.

Furthermore, the values on BARPLOT, can be evaluated in *Inclusive* and *Exclusive* manner. Therefore, user can easily collapse the tree on *call path* and click on the desired path to get the exclusive value of it.

Additionally, the exact calculated values can be seen by clicking left button of mouse on the desired position on the graph, a tooltip would display a value corresponding to the iteration.

In a situation that user needs to store the graph, it is just needed to do right click on a graph, and select "Save as image", then the *Save dialog* will be opened to specifying the path and name of the PNG file.

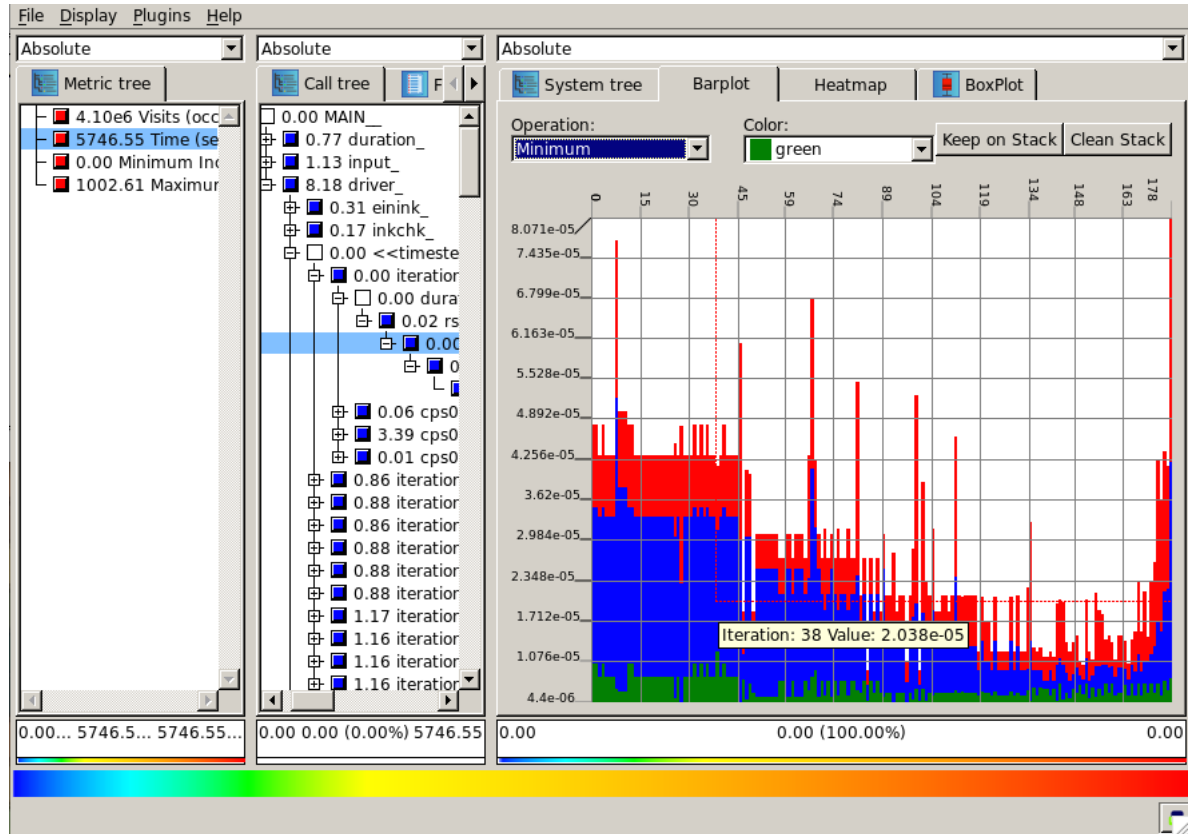


Figure 1.1: BARPLOT display window

1.3 Toolbar

On the top of the Barplot space, there is a toolbar that allows user to specify the kind of an operation and its color(Figure).

By *operation* item, the user can select different operations, {Minimum, Maximum, Average, Median, 1st Quartile} and *3rd Quartile* or the combination of {Maximum, Minimum} and *Average*. This provides the situation for the user to have different values for comparing. These operations are done on all threads in each iterations. For instance, by *Minimum* operation, the minimum value among the existing threads for each iteration, is calculated and plotted. These operations are kind of statistical measurements.

Color item offers a color for an *operation*, however for each *operation*, a default color is assigned automatically. By changing the *operation*, corresponding color will be shown on *color* combo box. In a situation that different bar graphs are overlaid on each other, each graph will be shown by different color in order to distinguish various graphs.

In addition to above items, two buttons are also designed to manage the order of the bar

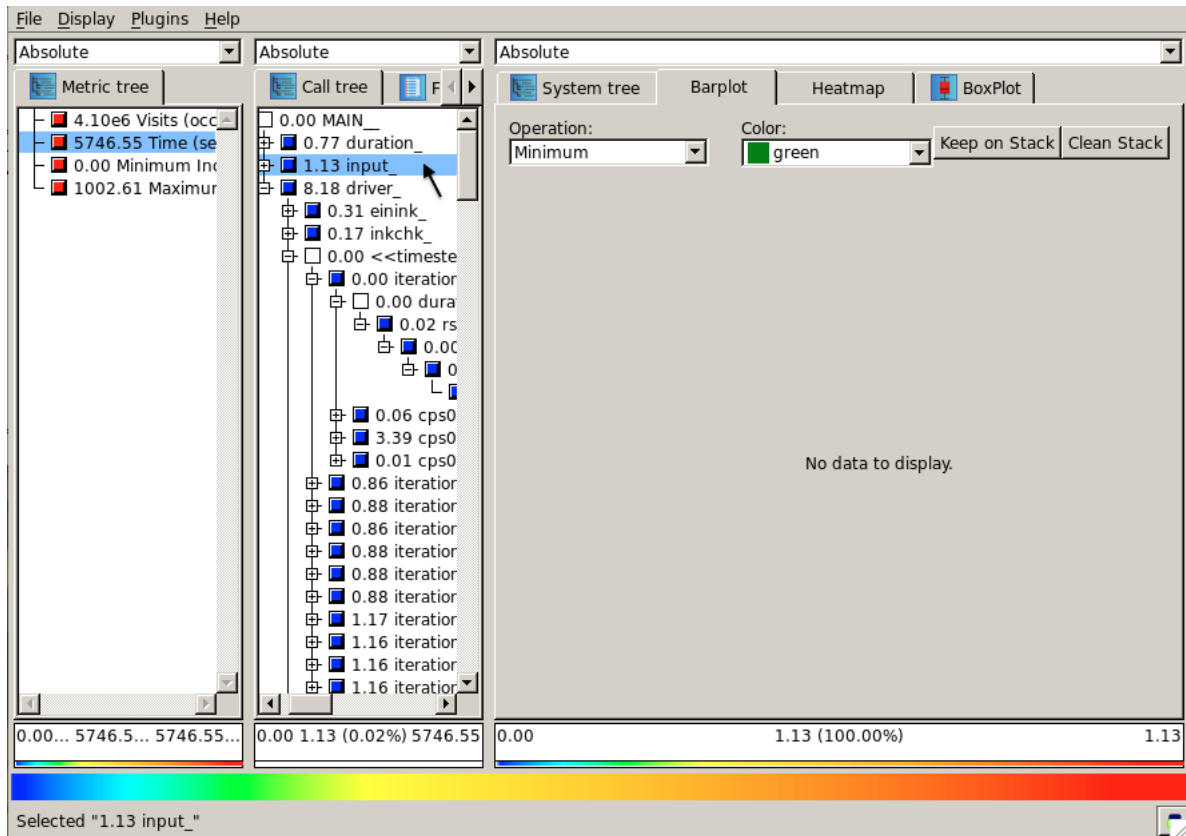


Figure 1.2: No data to display

graphs.

Keep on Stack: It is possible that user intends to compare different graphs by laying them on each other. For this matter, a pushbutton *keep on stack* is defined. Generally, by clicking on each *call path* or *metric*, a responding graph is replaced the previous one in the stack. In a situation, that the user intend to compare the next graph by the existing one, at one time, it is needed to click on the button *keep on the stack*, then the next graph will be added over the previous one, or in another words, it is overlaid on the last graph. If its values are less than the previous graph, user can see two graphs by different colors that help him/her in comparing, and in a situation that new values are greater than previous one, the new one will cover the previous with fresh color. Therefore, for keeping the top row of the stack, the user should click on the *keep the stack* button, otherwise the coming values will replace the last one.

Clean Stack: By clicking this button, all displayed graphs, are erased and the stack will be empty.



Figure 1.3: BARPLOT toolbar

1.4 Menu Bar

Plugin menu offers the general function to enable or disable a plugin, and specific functions for each plugin. *Barplot plugin* provides the following functions in two areas, Measurement Customization and Threads Ruler Customization(Figure).

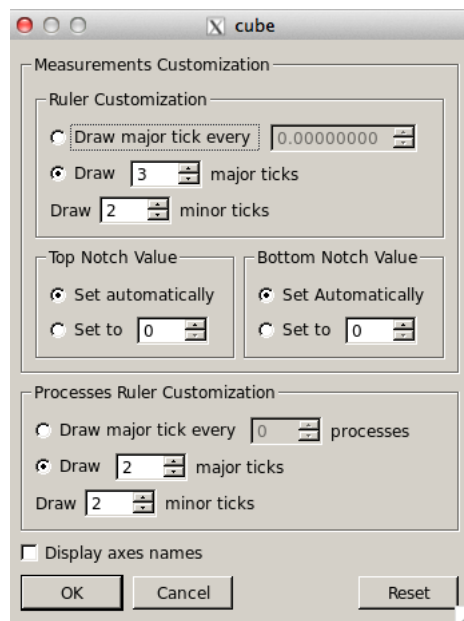


Figure 1.4: BARPLOT menu

Ruler Customization: User can modify the number of major and minor ticks of the ruler on vertical axis.

Top Notch Value: The value of the top notch on a vertical axis can be altered. Therefore, it can affect on the drawing of the graph.

Button Notch Value: The value of the button notch on a vertical axis can be altered. Therefore, it can affect on the drawing of the graph.

Threads Ruler Customization: User can modify the number of major and minor ticks of the ruler on horizontal axis.